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INDUSTRIAL FATIGUE AND REST PERIODS

* * *

Tired muscles require rest if they are to be restored to full capacity. The rhythmic alternation of function and rest may be observed on every hand. The heart rests between its beats and if it beats too rapidly, rests too little. Men and lower animals seek periods of rest and sleep between seasons of physical and mental activity. "Rest periods" are already an accepted institution. There has been some uncertainty, however, regarding the economic or hygienic value of established rest periods introduced between working periods for those engaged in industrial or mercantile pursuits.

Fatigue

Despite the fact that physiologists, psychologists and production engineers have labored long with the problem of fatigue, much yet remains unknown concerning the nature of fatigue and particularly concerning the interrelation of muscular fatigue and mental states. Physical fatigue as a problem of the physiological laboratory and considerations of fatigue in industry, for practical reasons, may be regarded one apart from the other. It is not implied that the scientific study of fatigue is of little practical value, but rather that the complexity of the problem of fatigue in industry has rendered it impossible for the student of industrial fatigue to apply the precision methods of the laboratory physiologist. He has been compelled to adopt such crude devices as gauges of output, of defective production, and accident incidence in his efforts to measure the ability of a man to perform a task.

It is very apparent that the productive capacity of a man is not determined alone by his muscular power, but that quite as important as physical power are such factors as skill, aptitude, interest and some degree of contentment. It is perhaps more graphically stated that there is little productive utility in a worker, who, even though physically powerful, is unskilled, unsuited to his task, uninterested, antagonistic and beset with anxiety or personal worries.

The measurement of the effects of fatigue in industry, as indicated by various factors such as sickness and accident incidence, has been given much study, but no satisfactory conclusions have been achieved owing to the obstacles inherent in any attempt to apply precise measurements to an ill-defined object.

While it has seemed logical to many employers and physicians to conclude that excessive fatigue reduces the resistance of the human organism to disease, in spite of this fairly common assumption, it has never been scientifically proved to be true, and a certain amout of inconclusive evidence is obtainable both for and against this contention. The causes of ill-health and of fatigue itself are so varied and so complicated that the correlation of any one fatigue producing factor with the incidence of disease is an impossible task. The only fair conclusion to be drawn at the present stage is that it cannot be stated with finality or with certainty, as between chronic fatigue and illness, which is cause and which is effect.

The adoption of various methods for the measurement of productive capacity has been occasioned by the necessity for a relatively simple expression of the effects produced by a great variety of inter-related factors. It is ad-

mittedly a crude expedient.

It would be difficult, if indeed not impossible, to list the factors concerning the individual worker which are involved in productive capacity, but those of particular importance are:

Sex	Experience
Age	Training and education
Physical strength	Personal habits
Physical suitability for work	Home environment
Physical defects	Duties apart from regular work
Health	Interest, animus, incentives

Without doubt, too little emphasis has been placed upon the importance of physical fitness in its relation to industrial fatigue and working capacity.

Effect of Working Hours Upon Production

Consideration of the proper relation of working time to non-working time may best be approached perhaps through a review of the experience in this country and in Europe in connection with studies of productive capacity under varying weekly hours of work.

Reductions in the number of weekly working hours, usually through reduction of daily hours have been studied in connection with their effect on health and production, notably in Great Britain, by the Health of Munitions Workers Committee during the war, and after the war by the British Industrial Fatigue Research Board. In a factory* employing about 10,000 workers, during the war period, for instance, accidents, spoiled work, sickness absences and output were studied for male and female operatives on work the conditions of which were more or less fixed while the working hours were changed. There was some evidence that the reduction in working hours decreased the accident rate, more so among women

* "Industrial Psychology", edited by Charles S. Myers, M.D., Sc.D., F.R.S. Home University Library. Thornton Butterworth, Ltd. 15 Bedford St. London, 1929, pp. 62-85.

than among men, but this evidence was apparent only when the original working day was unduly long. The amount of spoiled work was also less with the shorter hours. Output generally increased and sickness and absences were thought to have decreased with the reduction of the hours worked.

The Health of Munitions Workers Committee also discovered by comparing the weekly hours worked with the output that the excessively long shifts set up with the purpose of increasing production had the opposite effect. Long hours in a shift caused a drop in the average hourly output, presumably because workers unconsciously adapted their speed to the amount of energy which would have to be expended during the longer hours. The phenomenon was well marked in the case of workers employed at heavy work, (men sizing fuse bodies); moderately heavy work, (women turning aluminum fuse bodies); and light work, (boys boring top caps), but the increase of output with the shorter hours was greater in the heavier types of work, as would be expected. The figures were given as follows:

Table VI*

Process	Periods in Weeks	Average Hours of Work Nominal	Actual	Average Hourly Output	Total Output Hours x Hourly Output
A. Heavy Work	6	66.7	58.2	100	5,820 (= 100)
Men sizing fuse bodies	10	60.2	51.0	120	6,120 (= 105)
	11	55.5	50.4	137	6,905 (= 119)
B. Moderately Heavy Work	10	74.5	66.0	108	7,128 (= 100)
	16	63.5	54.4	131	7,126 (= 100)
Women turning aluminum fuse bodies	24	55.3	47.5	169	8,028 (= 113)
C. Light Work	11	76.6	70.6	105	7,413 (= 100)
Youths boring top caps	46	60.1	54.5	127	6,922 (= 93)

*as quoted by E. P. Cathcart, C.B.E., M.D., F.R.S., Prof. of Chem. Physiol. University of Glasgow in "The Human Factor in Industry", Oxford University Press, 1928 (p.41)

There is confirmatory evidence of this statement in other investigations which need not be quoted here.

A reduction in the amount of lost time from sickness and slackness of about 2% to 4% also apparently occurred with the shortened working hours.

Rest Periods

It is a logical step to pass from the study of the effects produced by the shortening of working hours to a study of the value of relatively brief rest periods breaking the continuity of effort during the working day.

It is almost inevitable that the evidence resultant from such studies should be far from uniform in character.

British Studies

The British Industrial Fatigue Research Board has conducted numerous exhaustive investigations into the subject of the effect of rest periods on the quantity and quality of production in varimus types of work. A brief review of some of the general conclusions revealed by these studies follows:

Rest period appear to result in increased output and reduced fatigue in the majority of cases, and sometimes in improved quality of work. This is true fairly consistently in laboratory studies and also under actual industrial conditions except that under the latter conditions the results are less consistent and less marked.

Rest pauses have the effect of levelling the work curve and eliminating the typical drop in production which is usually found at the end of work spells and at the end of the day.

Rests are particularly beneficial in monotonous repetitive processes; in operations where high speed or concentrated attention is required; in heavy muscular work and in work involving a fixed, strained or tiresome posture; or in

cases where the work spells are unduly long.*

The value of rest periods varies with the individual workers and with the type of work to a considerable extent. In general the value of rests appears to be in direct ratio to the extent to which the process is a manual one rather than a mechanical one. In machine work the effect of rests on production may be to decrease it, since the speed of the machinery is usually fixed and cannot be increased to make up for the lost time. In a few special cases the same is true of manual work, which may be of such a nature that resting time cannot be compensated for by increased speed. Examples are painting and ironing. It was noted by the British investigators, in studying individual differences among the wrokers, that slow workers benefited more by the pauses than rapid ones. For instance, a group of 17 labellers was studied before and after the introduction of a ten minute rest pause and it was found that the output of the five quickest girls improved 8.2%; that of the six intermediate girls, 12.8%; and that of the six slowest girls improved 17.3%, though even then it did not approach the average of the quick group.**

It is well established in the British studies that favorable results do not make their appearance immediately upon the introduction of rests and that several months are often required before workers adapt themselves to the new regime. In two of the studies this adaptation required six months.**

The amount of increase in output to be expected from scientifically planned rests depends largely upon the type of process and the care with which rests are introduced and managed. In a series of British experiments, the increase

* "Rest Pauses in Industry (A Review of Results Obtained)", S.Wyatt, M.Sc., M.Ed. Report No.42, Industrial Fatigue Research Board, H.M.Stationery Office, London, 1927.

** "Two Studies on Rest Pauses In Industry: A. The Influence of Rest Pauses on Light Repetitive Work" - H.M. Vernon, M.D. and T.Bedford, Report No. 25, Industrial Fatigue Research Board, H.M. Stationery Office, London, 1924, p.13, p. 11.

in the net rate of production ranged from 1.5% to 8.0% and the increase in the total output from 0.7% to 2.3%. The processes studied were handkerchief folding, handkerchief ironing and stamping press operation. The resulting increases are smaller than those found in other instances and do not represent the maximum increase attainable, but are quoted here as representative of a group of consistent and carefully worked out findings.

It should be recognized, of course, that as far as production is concerned, rest periods may be considered eminently satisfactory if the same total output is maintained with the pauses as had been previously expected in the continuous work spell.

It should also be recognized that in processes where pauses are inherent in the work for one reason or another, additional rests may decrease the output because of the excessive loss of working time. Nevertheless, on the type of work which is continuous, except that irregular voluntary pauses are taken unconsciously from time to time by the workers, it was found that organized rests were less wasteful, while the voluntary rests taken by the workers were again less wasteful than enforced interruptions, as those due to waiting for material. Voluntary pauses may average up to 10 or 15 minutes in each working hour in moderately heavy processes.* In connection with the study of stamping presses it was shown that an organized rest of ten minutes was preferable to irregular stops necessitated by waits for material of the same total duration, the difference in terms of increase in output being 4.6 per cent.**

In certain types of work, rest periods are found to be undesirable because they disrupt a process which must be continuous, as for instance, chocolate

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* (For voluntary rests taken in very heavy work, see H.M. Vernon, Report No.41 Industrial Fatigue Research Board, H.M. Stationery Office, London, 1927).

** "Studies in Repetitive Work with Special Reference to Rest Pauses", S.Wyatt and J. A.Fraser, Industrial Fatigue Research Board, Report.32, H.M.Stationery Office, London, 1925.

dipping, where the chocolate cools off and causes delay in getting started at the work after the rest pause; or soldering. Such obstacles could doubtless be surmounted in many instances if due thought were given to the matter.*

In one boot and shoe factory** in a double press operation, an experiment was tried in order to speed up production without adding more machines, by means of introducing a relay system, whereby three girls were put on each machine instead of two, and allowing rests to each worker in rotation. This experiment was successful, each operative working 40 minutes and resting 20 instead of two girls working continuously all day. An increase in output averaging 44 per cent. on the six double presses concerned was thus obtained with 50% additional labor. Lost time and sickness were said to have been diminished as well, while it was observed, as in other studies, that the least skilled workers showed the greatest amount of improvement.***

A number of investigations were pursued concerning the optimum length and distribution of rest periods and these were found to vary with the process and with the worker. Somewhat contradictory and confusing results were apparently obtained. It was recommended that rests be introduced only after a study of the work curve in the particular processes involved.**** In general, but not without exception,***** conclusions drawn from laboratory experiments indicated that frequent short rests often give a more favorable result than one or two long breaks. It is suggested that an industrial trial should begin with rests of 5 minutes at suitable intervals, increasing their length by two minutes if beneficial effects are not apparent.

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* Report No.42, Industrial Fatigue Research Board, p. 18.
** Report No.10, Industrial Fatigue Research Board, p. 29, or Report No.42,ditto, p.13
*** Industrial Psychology in Great Britain, C.S. Myers, P. 63, National Institute of Industrial Psychology, 1926, Jonathan Cape, London.
**** Report No. 42, I.F. R. B., p. 3
***** Report No. 25, I.R. R. B., p. 34.

The optimum place in the work spell for the rest period is also best determined by experiment; as a rule it is thought advisable to introduce the rest at the peak of the work curve when production is at its maximum, and just before it falls off, a point which occurs at a different time in almost every type of work studied. Rests should not be introduced, however, until work has proceeded for at least an hour and a half. If production rises to a maximum and starts to fall early in the work spell, or if it falls off a second time during the same spell after the introduction of a rest, a series of short rests rather than one long rest in the middle of the period may be indicated. It is considered that an unbroken work spell of over 4 hours is too long and that a rest pause should be interposed whenever such a spell occurs.

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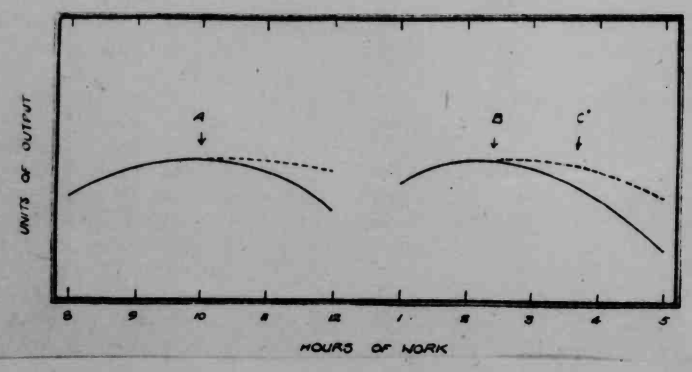

Figure 1. - Showing most suitable position of rest-pause in relation to shape of output curve.

INTENTIONAL SECOND EXPOSURE

The optimum place in the work spell for the rest period is also best determined by experiment; as a rule it is thought advisable to introduce the rest at the peak of the work curve when production is at its maximum, and just before it falls off, a point which occurs at a different time in almost every type of work studied. Rests should not be introduced, however, until work has proceeded for at least an hour and a half. If production rises to a maximum and starts to fall early in the work spell, or if it falls off a second time during the same spell after the introduction of a rest, a series of short rests rather than one long rest in the middle of the period may be indicated. It is considered that an unbroken work spell of over 4 hours is too long and that a rest pause should be interposed whenever such a spell occurs.

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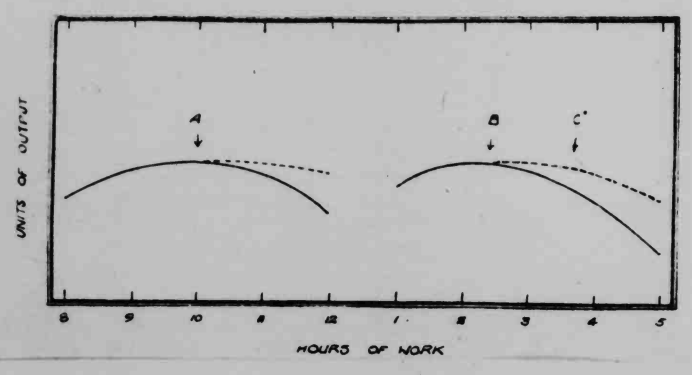

Figure 1. - Showing most suitable position of rest-pause in relation to shape of output curve.

Monotony and Boredom

The effect of monotony has also been studied intensively by the British investigators,* who found that boredom resulted in a reduced rate of working, but, so far, the most concrete conclusion reached is that it depends very largely on the individual whether or not the apparent monotony of work is really an unfavorable condition to which he cannot adapt himself, and which is conducive to fatigue.**

In some types of light repetitive work, change of activity alone may constitute a sufficient rest, or any pleasing relief from the monotony of the task may be effective. This theory, when tested out under laboratory conditions in the processes of (1) simple addition, (2) comptometer operation, (3) and muscular work resulted in an increase of from 2.4 to 24.2 per cent. in output and a decrease in errors of from 9.2 to 55.1 per cent. on days when the kind of work done was changed every 50 minutes in two daily spells of 2½ hours each as compared with days when continuous work on the same operation was carried on.

Under industrial conditions, too many changes of activity have an unfavorable effect on production. The amount of unproductive time, (time used in getting materials, arranging work,) was investigated in the process of cleaning, filling, packing and labelling bottles of drugs. This process, as arranged in the plant under study, was found to have ordinarily from 100 to 250 changes of activity during the day or an average duration of each process of from 2.15 to 5 minutes. It was estimated that in a typical day with working hours from 8 A.M. to 12.30 P.M. and from 1.30 to 5.30 P.M. with 5 minute rests at 10.30 and at 3.30, unproductive time amounted to about 18%. When most of these interruptions were eliminated and unproductive time was reduced to about 6% and at the same time changes of activity were arranged

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* Report No.56, I.F.R.B., "The Effects of Monotony in Work", 1929

** (An interesting chapter on subject of monotony written by a French mechanic who came to U.S. to study management methods and conditions in American industry by means of actual first hand experience with jobs in industrial plants, will be found in "Standards: Le Travail American vu par un Ouvrier Francais", H. Dubreuil Grasset, Paris, 1929; English translation "Robots or Men", Harper & Bros. 1930.

for at half hour intervals, the increase in production as reflected in earnings, was from 17 to 20 percent. greater than on the days of more frequent changes.

An experiment was then tried with the complete elimination of all variety in the work, the operative repeating the same operation throughout the day continuously. The daily earnings under this system were increased from 14.8 to 35% but the operatives greatly disliked this day.*

An experiment** in introducing changes of work in the first part of the morning and afternoon spells in various light repetitive processes, among them, assembling bicycle chains, resulted in average increased efficiency of from 7.5% during the period from 10.15 to 12.45 A.M. and of 11.8% from 3.45 to 5.30 P.M. The drop in production usual on unvaried days at the end of the spells was also reduced.

Too many changes were found to be detrimental to output because of the interruption in the swing and rhythm of the work. Changes after one and one half and two hours produced the best effect on these light types of work.

Another experiment*** was carried out with the introduction of a change period, in place of a rest period of 15 minutes in the mid-morning and mid-afternoon during which operatives were allowed to fetch material for the work and this arrangement was found to have increased the total output by 14.2 per cent.

The question of how rest prases are spent has an important effect on the success or failure of the venture. In exhausting physical work or exacting high speed work, the greatest possible true relaxation is probably most desirable for the workers. In work involving postural strain, change of position is essential. H.M. Vernon is convinced that more frequent changes of posture during the work spell,

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* "On the Extent and Effects of Variety in Repetitive Work", H.M.Vernon and others Report No.26, I.F.R.B., H.M.Stationery Office, London, 1924.

** "Comparative Effects of Variety and Uniformity in Work", S. Wyatt and J.A.Fraser, I.F.R.B., London, 1928.

*** Miles and Skilbeck, Journal Nat'l Institute of Industrial Psychology, Vol. I No. 6, p. 236.

as well as the change in the rest periods, would be very beneficial."*

In monotonous work, as has been described above, a change in the nature of the activity alone may be sufficient relief.

A preliminary laboratory experiment was made by Jackson and though unpublished is briefly mentioned in Report No. 25 of the British Industrial Fatigue Research Board on the question of the best manner in which rest pauses may be spent. A rest pause of 15 minutes was introduced in the middle of a work spell of 2 hours during which a simple process of addition was carried on. The rest periods were spent in different ways and the percentage gain in output demonstrated as a result in the combined work of 4 subjects was tabulated as follows:

Nature of Rest	Gain in Output
Absolute rest	9.3
Uncontrolled	8.5
Music	3.9
Tea	3.4
Walk	1.5

The report makes the comment that "thus the greatest increase occurred when the subjects were allowed complete relaxation in easy chairs. In the uncontrolled rest they usually sat and smoked and indulged in light conversation. The least beneficial form of rest was the walk, chiefly because the subjects were unable to settle down for some time after work was resumed. These results are, of course, merely suggestive, but they indicate the importance of determining experimentally the most suitable form of rest under different industrial conditions."

Industrial Rest Periods in the United States

In the United States, rest periods were in use in a certain number of industrial plants in 1919, when the report of a survey of 388 employers conducted

* "The Effects of Posture and Rest in Muscular Work", H. M. Vernon and E. M. Bedale, Report No. 29, I.F.R.B., H.M. Stationery Office, London, 1924.

by the National Industrial Conference Board* showed that 104 of these employers had adopted rest periods for certain of their workers. Fifteen of them had later discontinued the practice. In a majority of these plants having regularly established rest periods, the rests were only allowed to certain classes of employees or only to women. The general opinion on the part of the employers was that rests were advantageous in monotonous occupations, work requiring intense concentration, heavy physical labor, work involving postural strain, or work in poorly ventilated places.

A more recent study made by the National Industrial Conference Board in 1929 on "Industrial Relations Programs in Small Plants" covering a total of 4,409 companies employing from 1 to 250 workers revealed the following in regard to rest periods and recreation facilities:

(quoted from charts on pages 13; 26-27 of the report)

*Research Report No. 13 "Rest Periods for Industrial Workers".

"Industrial Classification of Companies and Percentages of Companies" in Selected Industries Having Rest Rooms for Men, Women: Rest Periods or Noon Hour Recreation"

(the plants studied were employers of from 1-250 employees. The total number of companies was 4,409 and the total employees 419,391)

Industry	No. of Companies	Per Cent Rest Rooms for Men	Per Cent Rest Rooms for Women	Rest Periods	Noon Recreation
Metal	1,684	13.5	22.4	4.3	9.2
Textiles	537	19.0	46.6	4.5	14.7
Leather	188	18.1	35.5	2.7	6.4
Lumber	447	11.9	18.6	5.1	6.3
Chemicals	252	23.8	36.9	6.3	9.9
Paper	178	21.3	43.3	9.6	7.9
Printing	225	11.1	48.0	6.7	7.1
Food	252	34.5	45.2	7.5	12.3
Rubber	28	32.1	46.4	3.6	3.6
Utilities	42	33.3	33.3	11.9	7.1
Mercantile	98	12.2	40.8	5.1	4.1

It will be noted that rest and recreation rooms seem to be very much more in vogue in American industries than rest periods. In a survey of "Health and Recreational Activities in Industrial Establishments, 1926", carried out by the U.S. Bureau of Labor Statistics, out of 430 plants studied, 235 had recreational facilities of some kind. There is some evidence, too, of a tendency in American industrial plants to fill rest periods with some form of activity such as games, exercises or music. Examples of these methods of utilizing rest periods will be briefly discussed later.

Not much intensive study of rest periods in industry in the United States has taken place, though a great deal of study has been devoted to fatigue in some of its other aspects by P. Sargent Florence, Ryan, Martin, Reynold Spaeth, Lee, Yoakum, Baumberger, as well as to efficient methods of working introduced by industrial engineers such as Taylor and Gilbreth.

The method of introducing rest periods in American industries has been more or less empirical and in many cases entirely haphazard. In his text book on "Industrial Engineering and Factory Management", Arthur G. Anderson* suggests the following as a guide to rest allowances, without, however, explaining on just what the estimates are based:

Nature of Work	Fatigue in Per cent	Allowance in Minutes
Tasks requiring only mild physical effort and skill . . .	5-10	3-6
Tasks requiring medium skill and close attention but. . . not hard physical work.	10-20	6-12
Tasks calling for limited to medium skill and reasonably hard work	15-30	9-18
Tasks requiring skill and hard work	20-33	12-20
Tasks which require skill or hard work, and are performed under adverse physical conditions	30-40	18-24

A description of the methods in use in 5 New York State Industrial establishments employing women will be found in the New York State Industrial Bulletin for December, 1927, page 76, including a laundry, a biscuit factory, a towel supply house and a storage battery plant.

An interesting report of laboratory research on the "Effect of Rest Periods on Production", has been made by Prof. George H. Shepard.** The object of the tests was to determine the minimum proportion of rest with which workers on light-heavy muscular work*** can effect their maximum output. The work was such as to cause noticeable fatigue at the end of the day without being heavy enough to produce a sensation of muscular strain. The workers were college students, young men of good health and physique.

During the rests the workers were made to relax completely, lying down. Quoting from the summary of the results of this investigation:

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* Ronald Press, New York, 1928, (p. 291)

** Prof. George H. Shepard, School of Mechanical Engineering at Purdue University, published in the Personnel Journal, Vol. VII, No.3, October 1928, pp. 186-202.

*** (Lifting weights on a gymnasium chest weight machine; all day runs were made but once a week so that cumulative fatigue was not a factor.)

"At maximum output the average proportion of rest time to work time plus rest time with the first four subjects was 18.2 per cent."

Experiments were then tried on two subjects to determine the effect of varying work time and rest time while still keeping the above ratio constant. The results, with due caution given against generalizing from these two observations, appeared to show that somewhat more work was performed per hour with a rest period of one minute than with any longer one. It was indicated at least with these two men that with working periods up to 98 minutes, the output is not greatly influenced by varying work and rest periods provided the optimum ratio of rest to work is maintained between them.

Other laboratory investigators have arrived at this apparently strange conclusion regarding the benefit of extremely short rests, especially in heavy work.* Graf** studying mental work introduced rests of ½, 2 and 5 minutes in work periods of one and two hours and found the 2 minute rests most beneficial. Whether these findings would hold good under industrial conditions is a doubtful question, yet briefness appears to be characteristic of the voluntary rests taken by industrial workers also. It may seem more reasonable to assume that for monotonous work, the short rests would be beneficial, while in heavy muscular work a period sufficiently long to recuperate from the expenditure of energy would be needed. In one form of severe work, at least, that is, for marching troops, the optimum rest has been calculated as 10 minutes of rest, lying down, for each hour of marching. This works out at about 17% of the working time. It has been shown experimentally, that the recovery of muscle during rest when work has not been of long duration is very rapid indeed, and that recovery in a given pause is greater in small muscle groups than it is in the muscles of the body as a whole.*** This

* "An Experimental Investigation of Rest Pauses", by Charles W. Manzer, PH.D. Archives of Psychology, Reprint No. 90, N. Y., July, 1927.

** Uber Lohnendste Arbeitspausen Bei Geistiger Arbeit, Psy.Arbeiten, Vol.VII, No. 4, p. 548.

*** Manzer, op. cit. p. 40

helps to explain one of the differences and apparent inconsistencies in studies of light versus heavy exercise. There is still, however, a great deal that is obscure or unexplained concerning the reason for the varying effect of rests of different lengths in their relation to the type of performance.

Psychological Factors Related to Fatigue

In the field of psychological experiment, it is coming to be recognized that a bullying type of supervision exercised over the workers is one of the basic causes in low output, inefficiency and fatigue.

Dr. William A. Sawyer, Medical Director of the Eastman Kodak Company of Rochester, N. Y., states in this connection:*

"Supervision"

"Here is one factor which I believe has much to do with cumulative fatigue. By supervision I mean not only the way the boss treats the worker day after day, but all that lies back of the boss on the management side, those methods of production, time study, rate setting, labor policies, discipline, system of remuneration, etc. - for which the foreman acts as agent and interpreter. Strange as it may seem to some, it is a fact that workers all too often work in an atmosphere of uncertainty and dread. They are anxious to make good - to produce adequately - and yet their powers are thwarted by the fears which beset them. The human mind craves certitude. Very few of us can stand uncertainty. I have known employees who hoped they would be discharged just to end the uncertainty of their situation.

"Happiness plays a definite role in physical effort and must not be ignored. We all know of instances where men will work twice as hard for a boss who fills them with a spirit of good cheer as for one who is continually hounding them.....

"Annoyance, uncertainty, harsh criticism, disappointments and fears of many sorts inevitably mean unhappiness, and this increases fatigue. All of the mental contacts of supervision play a most important part in creating a favorable soil for unnecessary tire."

A number of studies on the psychological aspects of the fatigue question have been pursued by Dr. Elton Mayo, Associated Professor of Industrial Research, Harvard University. In an experiment with the introduction, under care-

*Practical Considerations of Fatigue, March 1929 number of the Society of Industrial Engineers Bulletin, p. 16.

ful control, of rest periods in a textile mill where an acute problem in labor turnover existed in the spinning department, about 100 employees had to be taken on in the year in order to keep 40 at work. This was in contrast to conditions in other departments of the mill where turnover was very low. A study of the mental attitude of the workers was made and it was considered that the workers in this department were practically universally preoccupied with "pessimistic revery". Early in the investigation, four ten-minute rest periods were introduced in the ten-hour day, in which the workers were requested to lie down and instructed how to relax. Previous to this experiment, the efficiency of this department was rated at 70% to 75% per month. In the five month period following the system of rests, an average of 80% was reached. At this point, due to sudden pressure of work, a manager did away with the rest periods for ten days and the production returns for the month fell to 70%. Then rest periods was reinstated and results observed for 16 months, during which time the department maintained an average output of 83% for the entire period.*

During the past two years, Dr. Mayo has been engaged in some intensive research in the Hawthorne Works of the Western Electric Company in Chicago. The conclusions from this study were reported at the Annual Meetings of the Conference of the Personnel Research Federation and are published by the Western Electric Co. A brief summary of the findings appeared in the "Human Factor", Massachusetts Society for Mental Hygiene, January, 1930 which is quoted herewith:

> "The investigators showed, at least tentatively, and in highly mechanized and repetitive operations, that:
>
> 1. Total daily output is increased by rest periods and not decreased.
> 2. The conditions of work during the working day have more effect on production than the number of working days in the week.

* Revery and Industrial Fatigue, Elton Mayo, Wharton School, University of Penn. Journal of Personnel Research, Vol. III, No. 8, Dec. 1924, pp. 273-281.

3. 'Outside' influences, i.e., conditions not directly relevant to the task, tend to create either a buoyant or depressed spirit, which if reflected in production. A distinct relationship is apparent between the emotional status of the workers and the consistency of their output.
4. The method of the supervisor is the most important single 'outside' influence. Home conditions may affect the worker and his work; and a supervisor who can 'listen' and not 'talk' can in many instances almost completely compensate for such depressing influences.
5. Pay incentives do not stimulate production if other working conditions are wrong.

"The most important significant result is that dealing with the method of supervision. It was found that 'bully-ragging' methods of supervision not only depressed workers but their production. It was found that workers came to increase their liking for their jobs with the new kind of supervision which substituted 'sympathetic listening' for officious 'talking', with a consequent increase of production. The new type of supervisors listened not only to talk about shop but about home and personal affairs. One girl, for instance, suffered an exceedingly difficult home situation. After she began to talk to the supervisor about her situation, and she was encouraged to do so, her pre-occupations, once expressed, became less marked and more practical. Finally, during vacation, she determined of her own accord to end the difficulty by going to live with some girl friends. She did so, and at once her production rose and became steady.

"On the basis of these investigations, the company has formulated a new plan, that of 'interviewing' all the 40,000 employees. Over 13,000 have been thus 'interviewed' so far."

Methods of Utilizing Rest Periods in Industry

In England, the belief appears to be fairly general that serving food or at least tea during rest periods has a stimulating effect. To a certain extent this is done in some of the larger plants in the United States as well. A number of firms make arrangements through dispensary stations or serving wagons to provide milk daily to the employees in this manner.

A few firms have organized calisthenics during rest periods. It is, of course, advisable that such exercises should be conducted under the supervision of a competent instructor if any good is to result.

Examples of firms adopting this system are:

Larkin and Company
Buffalo, New York

Afternoon calisthenics under a trained leader.

Miller Lock Co.
Philadelphia, Pa.

Light calisthenics on the roof in the open air during rest periods. Non-compulsory but about 60% of the workers participate.

Los Angeles First National Trust and Savings Bank
Los Angeles, Calif.

Gymnasium classes under instructor for women employees one hour each week.

Calisthenics for sedentary workers are considered by some industrial managers to furnish relief from cramped posture and from monotony and fatigue. It is to be remembered, however, that where true fatigue exists, whether physical or mental, any form of activity at all may only aggravate it. Those engaged in muscular work do not necessarily profit from physical exercises and may rather require an opportunity to relax.

It is usually necessary to enthuse the workers over the idea of physical exercises and to maintain this enthusiasm. This is very difficult to do without the aid of an instructor.

The use of music in industry is fairly common. An inquiry into the subject of the use of music in industry for the purpose of offsetting monotony and fatigue, however, resulted in very little of scientific value, although several plant managers who have experimented with music in their establishments appear to hold a carefully considered favorable opinion of its usefulness.

It seems that music is extensively used in industry as a recreational measure and quite an imposing list of industrial concerns encourage and support their employees in organizing mass singing, company bands, choral societies, glee clubs and the like. Less frequently, music is employed during the working hours. Examples of firms with established musical programs are:

Art-in-Buttons Co. Rochester, N.Y.	Phonograph music during rest periods in some departments.
Coos Veneer & Box Co. Marshfield, Oregon	Music broadcasted by radio throughout all departments, operated by inspectors, whenever the workers request it.
Westinghouse Electric & Mfg. Co.* Newark, N. J.	Program of music during working hours, in operation over two years.
Ware Valley Manufacturing Company, Ware, Mass.	Concerts by radio in all departments during rests of 12 minutes at 10 A.M. and 3 P.M. The program was extended to include music when the work starts in the morning and afternoon at the request of the operatives.

The most comprehensive scientific study of experimental work with music is that compiled by Mr. Charles M. Diserens, Assistant Professor of Psychology, University of Cincinnati.**

Chapter VIII, "An Experimental Study of the Influence of Music on Behavior" describes in detail and analyzes the results of a group of original experiments carried on under the direction of the author. Summarizing his own work, he states the following:

"1. Music tends to reduce or delay fatigue and consequently increases muscular endurance.

2. Music has no definite effect on precision or accuracy of movement, if the rhythm is not adapted to the rhythm of the work. It reduced accuracy in typewriting and handwriting, the result being shown in an increased number of errors.

3. Music speeds up such voluntary activities as typewriting and handwriting. It also accelerates respiration.

4. Music increases the extent of muscular reflexes employed in writing, drawing, etc.

5. Music reduces normal suggestibility, except in one case of direct suggestion involving color in which case suggestibility is increased.

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* "Manufacturing Industries", October, 1926, Article describing Westinghouse musical program with illustrations by H.E. Miller, Plant Manager.

** "The Influence of Music on Behavior", Princeton University Press, Princeton, N. J., 1926.

6. Music seems to have a tendency to produce a shift in normal preference for chromatic and achromatic impressions, the change being toward the blue end of the spectrum and the white end of the achromatic series.

7. Music has a tendency to reduce the extent of illusions by acting as a distracting factor.

8. Music influences the electrical conductivity of the human body as manifested by increased fluctuations in the psychogalvanic reflex."

For a complete collection of information on the establishment of music in industrial plants, Kenneth S. Clark's book "Music in Industry", published by the National Bureau for the Advancement of Music, 45 West 45th Street, New York City, N. Y., 1929 pp. 303, is recommended.

EQUIPMENT OF SMALL REST ROOMS AND RECREATION ROOMS

Assuming that the rest room is intended for use only by those who are feeling ill, possibly with headache, dysmenorrhoea, a space of not less than ten by ten feet is recommended, with ample room for two cots and several chairs as needed. If a toilet room with washing facilities can be planned connecting with the rest room, it is most desirable to furnish it. If not, have one as nearby as possible.

Good ventilation, quiet and privacy should be provided.

Lighting should be cheerful but restful, an effect which can be secured in part by considering the wall color, avoiding anything so dark as to be gloomy or so white as to be glaring. Pale yellow, cream, or buff is a good tone to use.

The minimum furnishings would consist of one cot or lounge with pillow and blanket and one or two plain chairs. It might be found in practice that two cots are needed, so there should be room allowed for them if desired, and when two are in the room they may be separated by a screen or curtain.

It is convenient to have either electrical connections or hot water so

that hot drinks and heating pads may be available.

Some woman competent to supervise the rest room while in use should be detailed to this duty and should see that it is kept clean and in order. The workers may be allowed to go there only with the permission of their section head or the woman in charge of their office. A paper slip with such written permission to be handed to the person in charge of the rest room can be used if desired.

If a room is to be used more for purposes of recreation during the lunch period than as a room for those who may become ill, a larger room would be needed with cheerful decorations which need not be elaborate or expensive. Wicker chairs, curtains, a few plants, and one or two small rugs that can be taken up from a floor suitable for dancing, a few books and magazines and perhaps a victrola would furnish such a room. Arrangements can often be made with the local library to supply books.

Any room provided as a recreation center for men should be very simply furnished. Particularly in plants devoted to heavy work it has been found that such rooms were best used if provided with sturdy furniture capable of withstanding hard usage and if no effort was made to render the room "attractive" by the use of the more colorful equipment commonly provided in rooms for women.

A pleasant location with window lighting and ventilation is very desirable. It had better be the definite duty of someone to supervise it, although of course it is not necessary to provide anyone to give full time for this job alone. The full benefit of rest periods, especially that of the noon hour cannot be secured, unless a comfortable place is available in which to spend them.

The National Lamp Works of the General Electric Company has standardized the equipment for rest and recreation rooms in all of its plants. It maintains, of

course, much larger rooms than would be needed for just a few workers, but to give an idea of the type of furnishings for a room about 1200 square feet, set aside as a rest and recreation room for 220 women with an additional 1,200 square feet for dancing, the equipment includes:*

10 green reed rocking chairs
10 green reed ottomans
10 green reed settees
14 green hair pillows for settees
2 green reed magazine stands
2 green fern stands
3 green grass rugs
2 table lamps
1 desk
1 desk chair
7 plants
1 telephone

Sometimes the rest room and the recreation room are combined; that is couches are placed in a corner of the recreation room. This plan is certainly not to be recommended, however, except with a very small force, since those who are ill cannot rest comfortably in a room filled with girls enjoying their recess. With a small force, under 25, it might be possible to work such an arrangement by closing the room for recreation purposes when it was occupied by girls who are ill.

There follow illustrations of well planned rooms which show to some extent the type of room in use in industry for recreation purposes.

*"The Human Factor in Industry", by Dr. L. K. Frankel and Dr. A. Fleisher, Macmillan Company, New York City, N.Y., 1920.

RECREATION ROOM

of the

CROUSE HINDS COMPANY

REST AND RECREATION ROOM

of the

DENNISON MANUFACTURING COMPANY

ONE OF THE RECREATION ROOMS

of the

PACIFIC TELEPHONE & TELEGRAPH COMPANY

BRANCH OFFICE ORGANIZATION AND MANAGEMENT

Policyholders Service Bureau
METROPOLITAN LIFE INSURANCE COMPANY
HOME OFFICE—NEW YORK
Pacific Coast Head Office—San Francisco
British Isles Head Office—London
Canadian Head Office—Ottawa

BRANCH OFFICE ORGANIZATION AND MANAGEMENT

Prepared by

Policyholders Service Bureau
Metropolitan Life Insurance Company
New York City
1930

BRANCH OFFICE ORGANIZATION AND MANAGEMENT

The type of branch office organization, its relationship to the home office, and the methods employed for developing branch control, are largely determined by the type of business activity carried on.

Branch operations are primarily of three kinds; (a) selling (b) warehousing (c) manufacturing or producing. The operation of a single branch may be restricted to one or it may embrace more than one of these activities.

This report is concerned primarily with the practices of organizations generally identified with the food industry and operating sales and warehouse branches. Some of the organizations studied were conducting limited manufacturing operations in conjunction with their warehouse branches, but usually distinct units were maintained for this purpose. This study is restricted to an investigation of branch office Organization and Management according to the following topics:

1. Type of branch house organization.
2. Functions and responsibilities of branches.
3. Methods of controlling branch operations.
4. Regulation of local price scales.

Type of Branch House Organization

This investigation has indicated that branch offices are frequently maintained by food manufacturers in the distribution of their products. In some cases these branches consist only of a skeleton organization with administrative functions largely centralized in the central headquarters. In other cases a complete business organization was found in each branch with full authority delegated to the branch manager for its operation practically as an independent business unit. In most of the companies contacted, there was a branch manager in full charge of all activities of the branch and an

office manager or cashier directly responsible for the records,etc. Where manufacturing activities were also included these were sometimes assigned to a superintendent who in turn reported to the branch manager.

A prominent meat packing concern operates about 400 branch houses located in the principal cities throughout the United States. Due to the large number of branch houses of this company, there are territorial supervisors in the home office, and district divisions are established all over the country. Each branch serves as a warehouse, carrying a complete line of products, maintains a staff of inside (or house) and outside salesmen and makes store deliveries to retail merchants with its own delivery equipment. In addition many branches manufacture locally such products as sausage, smoked meats, boiled hams, etc. For administrative purposes, the country is divided into districts composed of from twenty to thirty branch houses, in each of which there is a local district manager. Districts are combined into territories with territorial supervisors located in the home office reporting to a vice-president who is responsible for the entire branch house organization.

Another meat packer describes his branch organization as follows:

"Our branch houses are complete sales offices, warehouses, manufacturing and service units. They receive daily or several times a week supplies of meat of all kinds which they place on display in the refrigerated rooms and move out to the retail dealers within a day or two after receipt. Most of our branches also manufacture and process meats, manufacture sausage, candle eggs, and engage in other activities of a local nature. We have a complete business unit with a manager, accounting force, salesmen, delivery service, in fact everything that an independent

business unit would have."

The National Biscuit Company operates three distinct types of branch houses; sales agencies, bakeries, and flour mills. All three types of branches of this company operate as virtually independent units, and a complete business organization is maintained under the administration of a branch manager. This company is initiating a new policy however, which relieves the branch manager of direct responsibility for all office routine and places the supervision of all office activities directly on the branch cashier.

A rather extraordinary organization set-up is employed by a food manufacturer. This company operates several branches, manufacturing and selling cattle and poultry feeds. In this organization a careful distinction is made between the responsibility for sales activities and all other activities of the branch. For sales purposes the entire country east of the Rocky Mountains is divided into eight divisions, each of which is controlled by a divisional sales manager, who is responsible for all sales activities within a territory, including the selection and direction of the sales force.

These branch offices are operating offices only and the branch managers are concerned primarily with the procurement of materials and supplies, the handling of orders turned in by the salesmen, and with branch credit, traffic, and accounting matters. In other words, the branch managers have no direct responsibility for sales.

Functions and Responsibilities of Branches

The responsibilities of branches are considered for each of the following functions:

Credits and Collections
Purchasing

Bookkeeping and Records
Personnel (including hiring and discharging)
Disbursing
Advertising

Credits and Collections

This study indicated that the function of credit approval and the collection of outstanding accounts is generally delegated to the branch. The branch cashier in charge of credits and collections is usually located in the territory where the customer is doing business and can check a customer's credit more thoroughly. He is responsible to a district credit manager located in the field who reports for his territory to the general credit manager at the home office, who in turn is responsible to the treasurer of the company. The money collected is usually deposited in a local bank to the branch's own credit. The branch salesmen of one company do all the collecting in line with the policy that a sale is not a sale until full collection is made.

Another company manufacturing feeds sells all merchandise on the basis of sight draft, bill-of-lading attached. This minimizes the credit work of the branch that would be necessary if shipments were made on consignments or on terms of 10, 30, or 60 days. The branch manager in charge of credits is required to scrutinize carefully all new credit customers, and is authorized to approve shipments only if the customer's credit standing is satisfactory.

In contrast to the practices described previously, one company handles credits and collections directly from its head office. Accounts receivable are carried at the home office, and collections are made by, and directly to the home office.

Purchasing

A considerable variety of practices were found in the assignment of authority for branch purchases. Most of the materials which branches require, either for manufacture, or sale, are secured from the company's own manufacturing and assembling plants, and are supplied at cost plus transportation charges. In this respect no transfer of cash usually takes place, the transaction simply requiring a record on the company's books. Some companies give their branches full authority to buy local products. This was particularly true of meat packers.

The National Biscuit Company sends its branch sales manager a price list, and he selects the stock he requires from this list. This stock is charged against him at cost plus transportation. He is required to keep a perpetual inventory record, and is encouraged to push special products, but no unnecessary pressure is used to make him take more stock than he feels he can readily sell because of the perishability of this company's products.

Office equipment is purchased in large quantities by the main office for all branches. The branch manager receives special semi-annual stationery and book requisition forms, on which he indicates the following concerning any one item on the description list:

Quantity wanted
Number used per pack or package per month
Quantity on hand on date of filling out request.

Bookkeeping and Records

It would seem, if all bookkeeping were a centralized home office function, that a considerable saving in overhead could be effected since there is generally a certain duplication under a decentralized system. Yet, all companies contributing to this report keep books and records at their

branches where the information is most often needed and quickly accessible.

The branch house cashiers of Armour & Company report to a branch house district auditor on all matters of bookkeeping and records, which involve either receipts or disbursements. The district auditor supervises a district on the same basis as a branch house district manager located in the field, and has 20 or 30 branch houses under his direct supervision. This branch house district auditor in turn reports to the Comptroller at the home office on all matters pertaining to accounting instructions and reports.

Personnel

The direction of branch personnel is usually assigned to the branch manager. In the case of a feed manufacturer, however, salesmen are hired by the divisional sales managers and are sent to a central training department at the home office for training in the fundamentals of salesmanship, after which they are given training in the field. In the matter of personnel management this company also distinguishes between office and mill personnel. The former is under the supervision of the branch manager and the latter under that of a superintendent, who in turn is responsible to the branch manager. A number of meat packers report that the branch manager is directly responsible for all matters in connection with branch personnel. The branch cashiers are usually directly responsible for office assistants. The personnel problems of all the companies thus reporting are under the supervision of a vice-president in charge of personnel located in the home office. His staff works closely with that of a vice-president in charge of the branch house organization. On important changes, it was found to be a common practice for branch managers to consult headquarters.

The branch manager of the National Biscuit Company has full authority to hire and discharge his help. He is required, however, to report to the home office the names of any of his young assistants who display unusual ability, so that the home office can at any time expedite the advancement of these men.

Disbursing

In some cases, authority for disbursing is delegated to branch managers and in other cases it is retained in the home office. The majority of the firms contacted reported disbursing as being a branch function.

In contrast to this policy, practically all disbursements are made at the home office of the National Biscuit Company. Each branch however, has a local bank account, from which disbursements are made for payroll, selling and administrative expenses. All cash funds not needed for the operation of the branch are sent in to the main office daily in even thousand dollar lots. Outlying branches make such transfers every three days.

Advertising

With the exception of keeping a supply of window display advertising on hand, which is apparently a branch function, advertising is usually centralized in the home office. In the case of one firm all advertising activities are centralized under the direction of a vice-president in charge of advertising. A central department under the supervision of this vice president handles all matters dealing with newspaper copy, magazine space, booklets, signs, posters, direct mail, etc.

In the Armour and Company organization a branch manager is responsible for local window display advertising, but the general advertising policy of the company is controlled in the home office by a major executive

whose title is "General Advertising Manager". This major executive collaborates with the vice-president and his staff in direct charge of the branch house organization.

Another meat packer does not allow its branches to do any special advertising except on instructions from headquarters. These branches are responsible, however, for keeping a supply of window display advertising on hand and for its distribution to customers' stores. Branch managers can request special advertising.

In the case of the National Biscuit Company, the branch managers are responsible for maintaining a supply of window display material and for its distribution. Authority for special advertising is received from the home office.

The Borden Sales Company, a separate operating subsidiary of the Borden Company, arranges for all advertising such as newspaper copy, magazine space, and railroad and street car signs, directly from its advertising department located at the home office in New York.

Methods of Controlling Branch Operations

This invextigation has indicated that virtually all companies contacted have either a complete budgetary system of branch control or make some orderly attempt to keep branch expenses within anticipated estimates.

A manufacturer, selling feeds through a branch house organization, controls the operating expenses of these branches through a budget. The budget estimates for selling costs of the various products are fixed as a certain amount per ton sold. This company also budgets its general, administrative and manufacturing expenses on the basis of a certain allowance per ton of product manufactured, the allowance varying with the type of product

manufactured. Manufacturing operations of the plant are in charge of a plant superintendent who is responsible for the costs and quality of the product.

Armour and Company budgets its branch house sales, percentage of gross profit, expenses and net profits. In the case of another meat packer, expenses are directly controlled by the branch manager. This company's branches pay their own bills, all of which must be approved by the branch managers. Control is exercised through the responsibility placed on each manager to operate the branch at a profit. Profitable operation requires that expenses be kept down to a minimum.

The National Biscuit Company controls its sales agencies and manufacturing branches on a cost of operation basis, that is, the branch must operate within a certain percentage of sales. The flour mills, however, operate on a profit basis, that is, they must produce flour at a price lower than it can be currently bought in the open market.

Types of Periodical Reports To Be Submitted by Branch Manager

All companies contacted during this investigation require that their branch managers submit periodical reports on the operation of their branches. These reports usually contain a balance sheet, profit and loss statement, analyses of inventory, sales, gross margins, etc., and are made either daily, weekly, or monthly, depending upon the type of branch. Sales agencies usually report monthly while manufacturing units may report more frequently, that is, weekly, and in some cases, even daily.

One company, for instance, requires daily, weekly and monthly reports from its branch managers. The rate of operation of the various plant units, stock of ingredients on hand, cash on hand, and daily production are some of the items reported daily. A few reports are made weekly, covering

construction in progress, safety and fire prevention statistics, etc. Most reports are made monthly and cover all phases of operation and general accounting.

Periodically reports of operations prepared by the branch cashier of Armour and Company at each fiscal closing and approved by the branch manager are mailed to the home office. Copies of these reports are sent to the district manager. These reports show an analysis of inventory, sales, gross margins, and detailed expenses classified by departments. Sales and expenses are compared with the budget and with the previous year's operation. These detailed reports are used by the district and branch managers and the home office organization for analyzing and controlling branch operations. The cashier furnishes the branch manager with a weekly report on operations, showing the amount of inventory, sales and gross margins, each classified according to departments, estimate of total expenses, and the net result. At the end of each fiscal closing, estimated expenses are compared with total actual expenses for the period. A copy of the weekly report is furnished to the district manager and the branch house accounting department at the home office.

Under another company's system, daily, weekly, and monthly reports covering all phases of operation are submitted by branch managers. Each week a Volume of Loss and Gain Report by classes of products is made up and sent into headquarters. At the end of the month a complete balance sheet, a statement of profit and loss, inventory on hand and reports for practically every other phase of the business activity are forwarded to the home office.

In the case of the National Biscuit Company a monthly "agency result

sheet", a copy of which is attached, is designed to give a complete and clear picture of branch operations with respect to sales, expenses, inventory, profit and loss and balance sheet items, and other important operating statistics. This sheet is used as the principal means of control.

The item of Sales, is analyzed to show:-house sales, wagon delivery sales, auto delivery sales, freight shipment sales, total sales to trade, transfers to branch, and the total sales and transfers.

Total expenses are divided into:

(a) Total delivery and freight expenses
(b) Selling expenses
(c) Total discounts

These items are subdivided into:

(a) Stable and drayage; auto delivery and drayage; auto delivery-electric; auto delivery-gas; shipping receptacles; freight paid trade; country delivery expenses.

(b) Selling salaries and commissions; selling expense, special salesmen's salaries and expenses.

(c) Cash discount, retailers' discount, jobbers' discount, government discount.

In addition to the above details, the form provides for the listing of the assets and liabilities in balance sheet form, and additional operating statistics such as total credit sales for the month; credit sales accounts outstanding; transfers to agencies; bad debts; collections, and cash sales.

Another section of this report is devoted to an analysis of salaries, wages and commissions, such as salaries of manager and office help, and the wages of warehouse and manufacturing labor. The final section of the report shows the debit or credit balance between branch and general

office at the end of each month.

Other reports, used by the National Biscuit Company in connection with branch house control, some of which serve as a basis for the monthly agency result sheet, include salesmen's monthly report; daily report of salesmen's collections and summary of collection vouchers. A cash report and a traveling expense report are mailed weekly to the Treasurer.

Types of Periodical Information Furnished to Branch Manager

This investigation indicated that most companies furnish the branch manager with reports showing how his operations compare with other branches in trading areas affected by similar economic conditions. One exception to this practice is reported by a meat packing company which furnishes comparative data of this character to a branch manager only if the operations of his branch are unsatisfactory.

In the case of a feed manufacturer, branch managers receive monthly comparative cost figures of all branches. Profit and loss statements are not supplied to the branch manager, since he has no direct connection with sales, but is interested primarily in the unit costs of operating a branch office and plant. The operating figures for an individual plant are always available to the branch manager.

The National Biscuit Company sends periodically to branch managers located in similar territory, comparative information collected from branch agency result sheets.

Regulation of Selling Prices

All companies contacted regulate selling prices through the home office. One company, for instance, handles all pricing of its products from the home office. Notification of price changes is given to salesmen and

branch managers by wire and later confirmed by mail. In practically all divisions, sales are made on the basis of price per ton, f. o. b. mill. The customer is billed with the price of the products plus the prepaid freight to destination. In a few localities, sales are made on the basis of price, f. o. b. destination.

The home office of Armour and Company prepares price lists and mails them directly to each branch house manager, and to the district managers. These price lists, issued generally on a weekly basis, but in some instances more frequently, represent the prices at which products may be obtained at the producing plants. In determining the local selling prices, consideration is given to the cost of freight, icing in transit, cost of merchandising, local conditions of supply and demand, and other factors.

Another meat packer has no strict regulation of selling prices. Most of his products are perishable and sales must be made within a few days after arrival, and necessarily at a price that will move the goods and yield a profit. Merchandise is charged to the branch at the "current market prices".

Selling prices of the National Biscuit Company are regulated in the home office. Price lists are sent out to the branch managers and permission to give price concessions must be obtained from the home office.

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Form 22 (Agency) 11-28

Results at _____ Month Ending _____

	ASSETS								AMOUNT		
Raw Material					✓				Total Credit Sales for the Month (Omit Charges to Transit Ledger No. 1 & No. 2)		Per Cent. to Credit Sales
Salable Receptacles					✓				Outstanding Cr. Sales Accts. (Omit Branch, Wages and Other Cash Sales also Balances to Transit Ledger Accts., but Include Suspended Ledger Balance)		_____
Grain Bags				Total							
		✓							Balance of Suspended Ledger 1st of Mo.		
Packages					✓				Transferred to Suspense This Mo.		
Shipping Receptacles					✓				Total		Per Cent. to Credit Sales
Car Preparation					✓				Less Bad Account Losses (as per face of Form)		_____
Returnable Gates					✓				Difference		
				Total					Balance of Suspended Ledger this Mo.		
Light, Heat and Power		✓							Difference—Collections this Month		
Repairing and Replacing		✓							CASH SALES Direct Delivery		Last Mo. / Last Year
Factory Waste					✓				" Country Delivery Towns		
Bread Product					✓				WAGES, SALARIES AND COMMISSIONS PAID AND CHARGED TO FOLLOWING ACCOUNTS:	Amount This Mo.	No. of Employees on Last Pay Roll of month: This Mo. / Last Mo. / Last Yr.
Cracker Merchandise					✓				Total Expense as per Face of Form. — Manager's Salary		
Retail Store				Total					Handling & Shipping		
		✓							Office Help		
Other Merchandise					✓				Manufacturing Labor		
Returnable Packages				Total					Selling Salaries & Commissions		
		✓							Wages, Salaries, Commissions only. Not total expense. — Garage Account Sal.		
Lunch Room					✓				Incidental Expense Sal.		
Incidental Expense					✓				Stable and Drayage Sal.		
Uniforms Account				Total					Auto Delivery Sal.		
		✓							Auto Delivery-Branch Sal.		
Stable and Drayage					✓				Special Salesmens Sal. (on your own Pay Roll only)		
Auto Delivery Exp.					✓						
Selling Salaries & Exp.					✓						
Country Delivery Expense					✓						
Expense Advanced					✓						
Contractors Ins. Premiums					✓						
				Total				✓			
		✓						✓	Extra Help $_____	✓ ✓ ✓	Above Amounts and Acct's to which charged in letter which accompanies this Form
Cash		✓						✓	Total		
Loan Sales Ledger								✓			
Suspended Accts. Receivable					✓	✓		✓	VALUE GOODS IN STORAGE		
Sales Ledger City					✓	✓		✓	Total Value Inventory Items Located In Storage Warehouse End of Month		✓ / ✓
Sales Ledger Country					✓	✓		✓	DETAILS OF GENERAL OFFICE ACCOUNT		
Transit Ledger 1					✓	✓		✓	Credit Balance First of Month		✓
" " 2				Total		✓		✓	Transfer Vouchers & Certificates Issued		✓
Branch Transfer Ledger		✓				✓		✓	Journal Vouchers, Rent, Ins. & Taxes, Etc.		✓
LIABILITIES				✓	✓	✓		LIABILITIES	Cash Received from G. O.		✓
Branch Liability	✓	✓	✓	✓	✓	✓			Net Profit for Month		✓
Accounts Payable				✓	✓	✓		✓	TOTAL CREDITS	✓	
Group and Excess Ins.				✓	✓	✓		✓	Certificates sent to Gen'l Office with List		✓
Employees Stock Liability				✓	✓	✓		✓	Journal Vouchers from General Office		✓
Auto Contract Deposit				✓	✓	✓		✓	Cash Remittances to General Office		✓
Unclaimed Credits				✓	✓	✓	Total		Net Expense for Month		✓
General Office		✓		✓	✓	✓			TOTAL DEBITS	✓	
GRAND TOTALS		✓							Credit Balance End of Month	✓	

THESE TWO AMOUNTS MUST AGREE

Inventories of Cracker Merchandise, Other Merchandise and Returnable Packages were taken by me, and Values as shown in Assets Column are correct

Sales Agent

TOTALS OF ITEMS IN BRACKETS MUST BE SHOWN AS INDICATED.
ADD ASSETS AND LIABILITIES BEFORE MAILING REPORT.
SHOW BALANCES OF ASSET ACCOUNTS IN ASSETS COLUMN ALWAYS
SHOW BALANCES OF LIABILITY ACCOUNTS IN LIABILITIES COLUMN ALWAYS

IF REVERSE BALANCES OCCUR USE RED INK

Form 22 (Agency)-11-28

Month Ending_____ **Results at**_____ **No.**_____

CUMULATIVE TO DATE (Dollars only)	Last Year	This Year
Sales	$	$
Expenses	$	$
Per Cent.	%	%

	LAST YEAR Sales	LAST MONTH ✓	LAST MONTH Sales	THIS MONTH ✓	THIS MONTH Sales
House Sales		✓		✓	
Wagon Delivery Sales		✓		✓	
Auto " "		✓		✓	
Freight Shipment Sales		✓		✓	
Total Sales to Trade		✓		✓	
Transfers to Branches		✓		✓	
Total Sales and Transfers		✓		✓	

PACKAGE GOODS SALES (Show Per Cent to Total Sales) (in Per Cent of Cost Columns)
Sales to Chain Stores

	LAST YEAR No. Stores	LAST YEAR Sales	LAST MONTH No. Stores	LAST MONTH Sales	THIS MONTH No. Stores	THIS MONTH Sales

AS BELOW	LAST YEAR Per Cent	LAST YEAR Expense	LAST MONTH Per Cent	LAST MONTH Expense	THIS MONTH Per Cent	THIS MONTH Expense
(1) Total Del. and Freight Exp.						
(2) Total Selling Expense						
(3) Total Discount						
Grand Total						

(Percentages to be figured against Total Sales to Trade ONLY)

CRACKER MERCHANDISE

Debits		Credits	
Previous Inventory		Sales and Transfers	
Purchases		Other Credits	
Other Debits		Present Inventory	✓ ✓
Difference (Loss in Red / Profit in Black)		(Difference to Date—Current Year Loss in Red / Profit in Black _____)	
Total		Total	

	Last Year	Last Month	This Month
Cracker Merchandise Difference (Brought Down)			
Other " Profit or Loss			
Returnable Packages			
Returnable Gates			
Crate Destruction			
TOTAL GROSS PROFIT (Black) or LOSS (Red)			

	LAST YEAR Per Cent.	LAST YEAR Expense	LAST MONTH Per Cent.	LAST MONTH Expense	MEMO. OF SALES (Dollars only)	THIS MONTH Per Cent.	THIS MONTH Expense
Manager's Salary					TOTAL SALES AND TRANSFERS		
Rent, Insurance and Taxes							
Petty Selling Expense					TOTAL SALES		
Advertising—Trade Mark					TOTAL SALES		
Handling and Ship (No. of Emp.____)					TOTAL SALES AND TRANSFERS		
Office Help (No. of Emp.____)							
Incidental Expense					TOTAL SALES AND TRANSFERS		
Merchandise Shrinkage					TOTAL CREDIT SALES		
Bad Account Losses							
1 Stable and Drayage					% FREIGHT HAULING ( ) DELIV ( )		
1 Auto Delivery—Electric					TOTAL SALES DELIVERED BY ELECTRIC AUTOS	✓	
1 Auto Delivery —Gas					TOTAL SALES DELIVERED BY GAS AUTOS		
1 Shipping Receptacles					SHIP. SALES EXCEPT TO TOWNS		
1 Freight Paid Trade					FREIGHT SHIPMENT SALES		
1 Country Delivery Expense					SALES IN TR AND GRAY TOWNS		
2 Selling Sal. & Com. (No. of Emp.____)	✓	✓	✓	✓	TOTAL SALES	✓	✓
2 Selling Exp.					TOTAL SALES		
2 Special Salesmen's Sal. & Exp.					TOTAL SALES		
3 Cash Discount	✓	✓	✓	✓	TOTAL SALES	✓	✓
3 Retailers Discount					CRACKER SALES TO RETAILERS		
3 Jobbers Discount					CRACKER SALES TO JOBBERS		
3 Government Discount					CRACKER SALES TO GOVERNMENT		
Car Preparation—No. of Cars____					CRACKER TRANSFERS TO BRANCHES		
Freight Paid—Branches					TRANSFERS TO BRANCHES BY FREIGHT		
Auto Delivery—Branches					TRANSFERS TO BRANCHES BY AUTO		
Total Expense	PER CENT.		PER CENT.		TOTAL SALES AND TRANSFERS	PER CENT.	
Net Expense (Difference between Total Gross Profit (Black) or Loss (Red) and Total Expense)	PER CENT.		PER CENT.		TOTAL SALES AND TRANSFERS	PER CENT.	

NOTE:—IRREGULARITIES OR INCONSISTENCIES MUST BE EXPLAINED BY LETTER WHICH SHOULD ACCOMPANY THIS FORM Printed in U. S. A.

Centralized Correspondence Departments

Policyholders Service Bureau
METROPOLITAN LIFE INSURANCE COMPANY
HOME OFFICE—NEW YORK
Pacific Coast Head Office—San Francisco
Southern Sales Head Office—Dallas
Canadian Head Office—Ottawa

CENTRALIZED CORRESPONDENCE DEPARTMENTS

Prepared by

Policyholders' Service Bureau
Metropolitan Life Insurance Company
New York City
1930

March 29, 1933 DA/Hse

CENTRALIZED CORRESPONDENCE DEPARTMENTS

In an effort to improve the caliber and effectiveness of correspondence, many companies have definitely undertaken to centralize this work in the hands of specially trained correspondents. Usually this is accomplished by one of the following two methods:

1. A group of correspondents, concentrated in one department under the direction of a qualified correspondence supervisor, may be designated to handle all of the Company's dictation with the exception of that of the more important business executives.

2. The dictation may be handled by one or more correspondents located in each department, their work being correlated under the guidance of a central correspondence critic or supervisor.

Under the first method, the individual departments are relieved of all responsibility for handling correspondence and this is centralized in a central correspondence department, the functions of which might include:

a. Receive all letters and look up the information necessary to answer in each of the departments affected.

b. Dictate all correspondence.

c. Make any adjustments which may be necessary or refer such dictation back to the correct department for doing so.

d. Systematically follow up all letters which may require later attention.

Such a method of centralized correspondence is supposed to overcome the tendency of departments to be narrowminded in viewpoint toward the customer and to develop in its stead the idea of service and the need of holding the customer's good-will. Another advantage claimed is that the members of such a specialized central department become more proficient through handling only correspondence and are frequently able to reach a higher degree of proficiency in this type of work.

It has been found, however, that in the larger organizations there are certain disadvantages to this separation from the department of its own letter writing. In obtaining information from the departments about which such letters originate, the correspondents must necessarily interrupt the department clerks in their work. Not being in a position to be sufficiently well informed on the activities of all the departments to verify or check such information, the correspondents may misunderstand the clerks or obtain incomplete data. Letters based on such information may be weak and inaccurate. There are also some letters which must be referred back to the individual departments in order to complete promised adjustments. This brings in the risk of possible misunderstanding with subsequent complications, which maybe the cause of lengthy correspondence between the customer and the department before the matter is finally settled.

The second method decentralizes the handling of correspondence and is a modification of the first method. One or more correspondents are assigned to each department and are directly responsible to the department head, but are under the general supervision of a correspondence critic or supervisor. The duties of the correspondence supervisor generally include the following:

1. To receive copies of all outgoing letters and criticise their make-up, expression, grammar, etc.

2. To dictate the general correspondence policy of the Company.

3. To train new correspondents.

4. To give frequent advice and suggestions to all correspondents with the thought of maintaining or improving the standard of letters written. This is sometimes accomplished by issuing bulletins from time to time.

5. To prepare and keep up-to-date a Company Correspondence Manual.

According to J. H. Picken, in the Business Correspondence Handbook, published by A. W. Shaw Co., the qualities needed in a correspondence supervisor are:

1. Needs Ability--to write letters, to judge letters, to handle the department.

2. Should have Experience--in all phases of letter-writing, theory, and practice.

3. Must have Tact--the ability to win others into full cooperation.

4. Requires Patience--because no good letter-writer was ever, nor was Rome, built in a day.

5. Can use Enthusiasm--which is the fire needed to melt the raw ore of letters into useful metal.

6. Must be Persistent--so that failure on one effort or from one angle can be turned into success from another.

7. Needs Printed Helps--for example, an office manual to assist in training work.

8. Should be given complete Authority--subject, of course, to executive direction.

In one large business organization this idea of correspondence supervision is highly developed. The central office has a correspondence director who writes bulletins which are sent to all company correspondents located in the many small selling branches throughout the country. These bulletins discuss the form of the company letters, the vocabulary, the tone, and proper way to handle adjustments, especially those which are particularly difficult. These bulletins also contain correspondence problems which are to be solved and then returned to the correspondence director, who gives the correct solution in the next bulletin.

Another company modifies this method somewhat by providing for the centralization of the handling of complaints. The correspondence supervisor has directly under him a small group of correspondents who handle all complaints from customers which require adjustments, all other correspondence being handled directly by the departments themselves. Complete records are kept and analysis made of the kinds of complaints and their causes. This enables the company to study their complaints and eliminate any general causes that may be found. The advantages in making a separation of complaints are:

1. Such complaints will be handled impartially.

2. It serves as a check on the efficiency of each department.

The vice-president of one large firm has the following to say about the advantages derived by an organization having correspondence supervision:

"I would sooner part with any other executive than with my director of correspondence. Before he came into the institution we were making more enemies a year, because of disunified correspondence methods, than I thought a business could have and live.

"The sales department would send out a master sales letter to a certain firm. Three days later the same firm would receive a collection letter from us, hardboiled enough to make any one want to swear. The same person who would get hours of patient consideration from one of our salesmen would, the next day, perhaps, receive an adjustment letter that would completely alienate him from us forever.

"Intelligent correspondence supervision has practically done away with that state of affairs in our office."

The company thus quoted is apparently making effective use of correspondence supervision in its organization. Some other companies that have actually carried out the idea of a centralized correspondence department, either for all or for certain type of correspondence, are the following:

Barrett Co.
New York, N. Y.

L. Greif & Bros., Inc.
Baltimore, Maryland

Commercial Investment Trust
New York, N. Y.

National City Bank
New York, N. Y.

The Erickson Co.
New York, N. Y.

Jewell Tea Co., Inc.
Chicago, Ill.

U. S. Casualty Co.
New York, N. Y.

Standard Oil Co. of California
San Francisco, California

Southern Pacific R. R.
San Francisco, California

Bank of Italy
San Francisco, California

Oregon State University
Corvallis, Oregon

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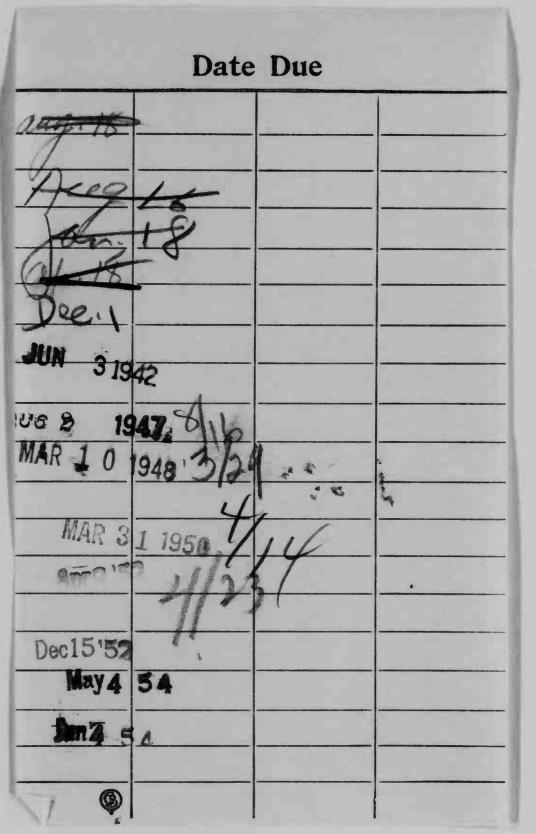
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